

This pamphlet was prepared by the Safety & Health Assessment & Research for Prevention (SHARP) program at the Washington State Department of Labor and Industries. SHARP performs research and analysis of workplace health and safety issues. Call 1-888-667-4277 or 360-902-5669. Visit SHARP's web site at www.LNI.wa.gov/sharp.

It is important to note that it is possible to have an overexposure and not experience any symptoms. If you are exposed to lead and experience any of these symptoms, or suspect you have been overexposed to lead, notify your employer and contact your doctor.

- irritability
- muscle or joint pains
- stomach aches
- trouble concentrating
- tiredness

overexposure may include:
Each person responds to lead differently. Some of the early symptoms of lead poisoning or you have been overexposed to lead, notify your employer and contact your doctor.

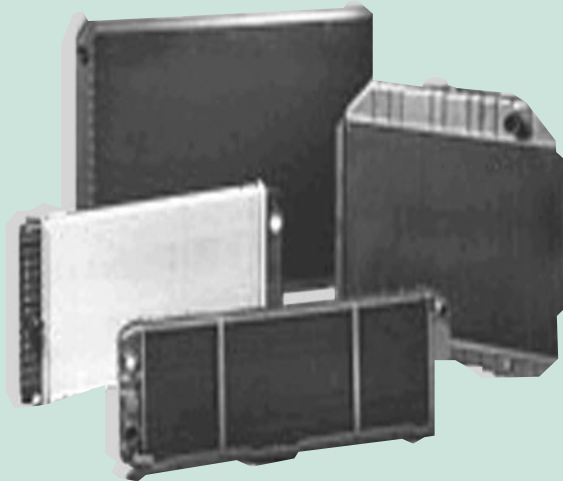
Many people with high lead levels do not feel sick or poisoned. These high lead levels can still seriously affect health. The longer you have a high level, the greater the risk of health problems. Damage done by lead may be permanent.

Once lead gets into your body, it stays there for a long time. Even if you are exposed to small amounts, it can build up in your body over time. Too much lead in your body can damage your brain, nerves, kidneys, and blood cells. Lead can also cause infertility in men and harm the unborn child.

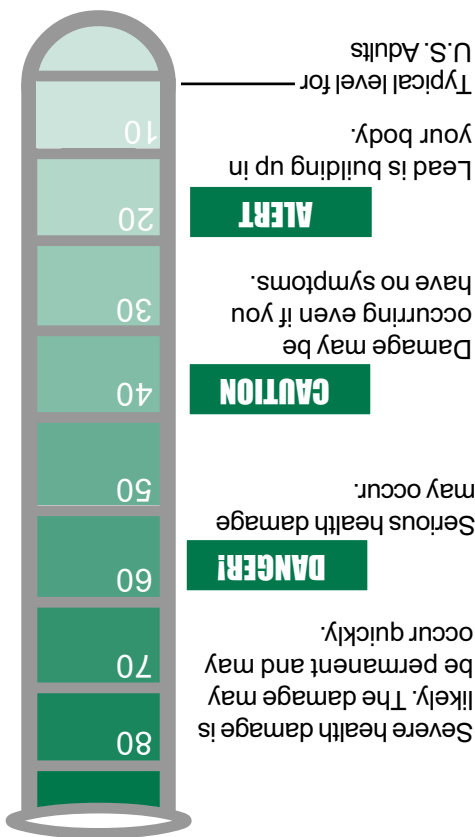
Why Should I Care About Lead Poisoning?

Prevent Lead Poisoning... In You and Your Family

Avoiding Lead Poisoning When Repairing Radiators



Once your blood lead level climbs above 25 mcg/dL, your risk of serious health problems increases. Even though there is wide variability of individual response to lead, you should immediately notify your employer if you develop signs or symptoms associated with lead poisoning or if you need medical advice concerning the effects of current or past exposure to lead or your ability to have a healthy child.



This figure presents the range of health effects associated with blood lead levels

Is There a Problem?

The most common test for lead is called the blood lead level, which measures how much lead is in your bloodstream. Blood lead levels are presented as micrograms of lead per deciliter of blood (mcg/dL).

Understanding Your Blood Lead Test.

Additional Resources

Your doctor or other health care provider

See a doctor if you are concerned about lead overexposure for yourself or others in your household. The doctor can arrange for blood lead level testing and help you interpret any exposure and health effects. It is important for your doctor to know about your lead exposure even if you don't have any symptoms. An occupational physician is trained to recognize diseases associated with work and may be able to diagnose a lead-related disease more readily than a doctor not trained in occupational illnesses.

Your safety officer or industrial hygienist

Find out if your work area has been checked for lead dust or fumes and find out how you can avoid exposure by using protective equipment and engineering controls.

L&I's WISHA Services

The Lead Standard contains rules that require employers to use proper procedures when lead-containing materials are handled. L&I's WISHA Services enforce the Lead Standard (WAC 296-62-07251) and investigate complaints from workers who feel they are being overexposed to lead or other chemicals. Call 1-800-4BESAFE (1-800-423-7233). WISHA also offers free assistance and information to both employers and employees. Visit WISHA's web site at www.LNI.wa.gov/wisha.

L&I's SHARP Program

The Safety & Health Assessment & Research for Prevention (SHARP) Program performs research and analysis of workplace health and safety issues. SHARP administers the Occupational Lead Exposure Registry and can provide further information on work-related lead poisoning to interested employers, workers, and health professionals. Call 1-888-667-4277 or (360) 902-5669. Visit SHARP's web site at www.LNI.wa.gov/sharp.

Take the Time To be Lead Safe... Follow the Safety Procedures Inside



In Washington State, the Occupational Lead Exposure Registry is administered by the Department of Labor and Industries' Safety & Health Assessment & Research for Prevention (SHARP) Program. SHARP receives workplace-related adult blood lead data from the Department of Health, stores the data in a confidential database, mails educational materials, and conducts telephone interviews with lead-exposed workers. SHARP contacts employers if particularly high exposures are seen.

Preventing lead poisoning is a national priority because blood lead levels above 25 mcg/dL are considered to be harmful. Consequently, the U.S. Public Health Service aims to eliminate workplace exposures that result in workers having blood lead levels above 25 mcg/dL. To accomplish this, the National Institute for Occupational Safety & Health (NIOSH) funds Occupational Lead Exposure Registries in several states. The aim of the registries is to track where high blood lead levels are occurring and increase awareness about lead exposure and health effects among employees and employers.

The Occupational Lead Exposure Registry

Why Am I At Risk?

Lead-containing solder has been used for decades in the manufacture of copper-brass radiators. Performing repairs on these radiators can expose you to very high levels of lead in fumes and dust. In fact, radiator repair mechanics have more very high blood lead levels reported to Washington State's Occupational Lead Exposure Registry than any other group of workers.

This pamphlet will help you reduce your lead exposure at work and prevent exposure of your family members to this toxic metal.

How Am I Exposed At Work?

Lead can enter your body in several ways:

- Breathing in lead dust, mist, or fumes.
- Swallowing lead dust if it gets on your hands or face or if it gets in your food, drinks, or tobacco.
- Some new information suggests that lead can enter your body through your skin.

Several radiator repair activities can cause lead overexposure. The activities that cause most problems are:

- Melting existing solder or applying new lead-containing solder while repairing.
- Cleaning tanks with abrasive blasting units.

Why Can Lead be a Problem for my Family?

You may carry lead dust home on your work clothes, work shoes, or areas of the body not covered by protective clothing such as hands or hair. This "take home" lead can harm the health of others in your home. Young children are very sensitive to lead's harmful effects because lead is toxic to the developing brain and can cause permanent damage. If a pregnant woman is exposed to lead, it may harm her unborn child. Contact your local health department if concerned about a child's lead exposure.



Avoiding Lead Poisoning When Repairing Radiators

Protect Yourself with Safe Work Practices

Here are some things you can do right away to protect yourself and your family from lead exposure:

- ✓ Work with your employer to ensure that you are not overexposed to lead in your workplace. This may include using special ventilation equipment to protect you from exposure to lead fumes and dust while soldering and bead-blasting. If effective ventilation cannot be achieved, you should be provided with a properly-fitted respirator that is appropriate for the levels of lead dust and fumes created. Encourage your employer to provide lead-free solder - typical solders contain 60 percent lead.
- ✓ Follow all safe work rules and use controls properly.
- ✓ Attend training and safety meetings.
- ✓ Apply the flame to solder no longer than is necessary to melt it.
- ✓ Avoid stirring up lead-containing dust with dry sweeping or blowing. Wet cleaning and vacuuming with a HEPA-equipped vacuum cleaner are generally safer.
- ✓ Participate in blood lead testing programs and encourage your employer to perform air lead testing and blood lead testing on a regular basis. Owner-operators (with no employees) should also have their blood lead levels checked, even though they are not required to under the Lead Standard!
- ✓ Wash your hands and face before you eat, drink or smoke. Don't forget to clean under your fingernails with a nail brush.
- ✓ Eat, drink and smoke only in areas free of lead dust and fumes. Ensure that your break room remains clean. Wash down your tables and microwaves regularly.
- ✓ Use separate work clothes and shoes/boots while at work. Disposable coveralls are the best choice!
- ✓ Keep your street clothes in a clean place.
- ✓ If possible, shower at work before going home. At the very least, wash your hands, arms, and face with soap and water. Be sure to use a clean towel.
- ✓ Don't wear your work clothes and shoes/boots home. Talk to your employer about laundering your clothes at work. Avoid taking lead-contaminated materials home, where the dust can harm your family! If you must take work clothes home, wash and dry them separately.

Your Employer's Responsibilities

Under federal and state regulations (the Lead Standard for General Industry), employers have a responsibility to ensure that workers are protected from harmful lead exposure. This includes making sure that lead in the air of the workplace is not at hazardous levels (i.e., greater than 50 micrograms per cubic meter [mcg/m³] averaged over an eight-hour period).

Your Rights as a Worker

Your employer is responsible for providing you with the following:

- ✓ A safe and healthful workplace. Your employer is required to comply with standards established to prevent harmful exposure to lead. Your employer must provide protective equipment at no cost to employees;
- ✓ Upon request, a copy of air monitoring results;
- ✓ A copy of the Lead Standard (upon request);
- ✓ Training. Your employer is required to train you how to work safely with lead;
- ✓ Medical monitoring. Your employer must provide blood lead testing, medical exams, and consultations for lead-exposed workers; and
- ✓ Under certain conditions, you can be transferred to a non-lead exposed job without loss of pay or benefits (i.e., "medical removal").

You have the right to file a confidential complaint with the Department of Labor and Industries (L&I) if you believe that there may be a serious hazard. You also have the right to file a complaint if you believe you are being discriminated against for exercising one of your rights under the Washington Industrial Safety and Health Act (WISHA). It is illegal for an employer to discriminate against a worker for bringing up safety and health concerns or for filing a complaint with L&I. You may call 1-800-4BESAFE (1-800-423-7233) or the nearest L&I office for assistance.

Help with Waste Management

Cleaning, rinsing, repairing, and other activities in your radiator shop produce hazardous wastes such as spent hot tank solution, dirty rinse water, dirty test tank water, tin/lead dross, and waste antifreeze. These wastes must be managed safely and in compliance with Washington State's Dangerous Waste Regulations (Chapter 173-303-WAC).

The Department of Ecology can provide technical assistance. Contact the regional office closest to you: Northwest (Bellevue - 425-649-7000), Southwest (Lacey - 360-407-6300), Central (Yakima - 509-575-2490), or Eastern (Spokane - 509-456-2926). Read "A Guide for Radiator Shops", which is available from the Internet at www.ecy.wa.gov/biblio/92br9.html or by calling Ecology's Publications Office at (360) 407-7472.

The Local Hazardous Waste Management Program in King County provides assistance to King County businesses that generate small quantities of hazardous waste. Services include the Business Waste Line at 206-296-3976, a Voucher Incentive Program offering cash reimbursements to qualified businesses (call 206-263-3090), and onsite technical assistance (call 206-263-3090).

This man may be exposing himself and his family to lead

